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ABSTRACT

As increasingly younger children exhibit spiraling social behavior problems, researchers are focusing on the role of family dynamics in these problems. For this study, investigators explored the relationship between problem-solving skills and verbal comprehension in children from distressed families. Twenty-nine children, ages 4 to 8, completed the Preschool Interpersonal Problem Solving (PIPS) Test, the Peabody Picture Vocabulary Test--Revised (PPVT-R), and provided solutions to a contrived problem. Results indicate that children from homes with distressed and abusive parents, exhibit a strong, positive relationship between verbal comprehension and the ability to generate solutions to interpersonal problems. However, verbal comprehension did not affect either the quality of children's responses or their actual behavioral choices in a real-life problem situation. It seems that verbal comprehension is related to children's ability to verbally generate solutions to interpersonal problems, but verbal comprehension does not appear to mediate the quality of their solutions. Furthermore, when challenged with a peer problem involving a desired object, older and younger children are equally likely to choose an aggressive solution. These findings suggest that intervention strategies for behavior problems in elementary-school-age children should first consider building their verbal comprehension. (RJM)

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Problem Solving and Verbal Comprehension in Children of Distressed Families

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Abstract

The relationship between problem solving skills and verbal comprehension was explored in four to eight year old children from distressed families. Scores from the Preschool Interpersonal Problem Solving (PIPS) Test, a contrived problem situation and the Peabody Picture Vocabulary Test - Revised (PPVT-R) were compared. Results suggest a relationship between verbal comprehension and the ability to generate solutions, but not to actual behavioral choice in problem situations. Interventions should focus on increasing verbal comprehension, along with role playing, to enhance problem solving competence.

Problem Solving and Verbal Comprehension

in Children of Distressed Families

Increasingly, children in our schools are displaying social behavior problems which are manifested in younger students than previously imagined (i.e. kindergarten). The cause of these problems often lies not in the child, but rather within the family dynamics. Poor parent-child relationships, often accompanied by physical and emotional abuse may be the root of these behavior problems. In some of these situations, problems are not resolved through an interchange of verbal reasoning between parent and child, but more likely through short directives or the nonverbal "heavy hand." Indeed, past research has found that distressed families have fewer verbal interchanges and those which do occur are often coercive (Herrenkohl, Herrenkohl, Toedter & Yanushefski, 1984). Bandura (1977) posits that learning takes place though observation of verbal and visual information. These children then have learned an aggressive manner in which to approach problems and have had limited opportunities to acquire the necessary verbal skills to solve the problem in any other manner.

It seems likely then, that children from these situations will demonstrate limited verbal ability. This inability to express themselves may be manifested as a lack of interpersonal skills and problem solving skills, which would allow them to function at a socially higher level. In attempting skills training with these young children they may demonstrate difficulty grasping the meanings of words and concepts presented.

Spivack and Shure (1974) reported using the Peabody Picture Vocabulary Test (PPVT) in correlation with a measure of problem solving ability and found a low, but significant correlation. They also reported that appreciation of certain words, in particular "and" and "not" was significantly related to scores on the measure of problem solving. Kneper, Obrzut and Copelang (1983) examined the relationship between problem solving and intellect in a sample of gifted students. They found significant correlations between verbal giftedness and social, as well as emotional, problems solving. Similarly, in a study by Meisle (1989), language achievement was found to correlate significantly with problem-solving skills in first and second grade

students. Meisle suggested that extreme differences in language achievement may account for the observed problem-solving differences found within his study.

In this study the relationship between problem solving skills and verbal comprehension was explored. Previous research has explored this relationship with a wide range of student behavior and abilities. This study will differ in that only children from distressed families will b considered, as a majority of behavioral referrals within the schools seem to stem from this population. It was predicted that there would be a relationship between problem solving skills and verbal comprehension.

Method

Subjects

Subjects were taken from a program in which "distressed families" received training in problem solving skills. "Distressed families," for the purpose of this study, refers to those in which difficulties exist in the marital and parent-child subsystems, and in which there are limited social and financial resources. Family income ranged from $350 to $1566 per month. Family configurations included 18 single parents, 6 marries, 2 divorced and 3 who were living with another person. The subject pool included a total of 29 children with ages ranging from four to eight years. These children included 16 males and 13 females of which 21 were African-American and 8 were white.

Dependent Measures and Procedures

All data were collected in the context of weekly family group intervention sessions. Measures were administered by trained undergraduate students during these sessions.

Preschool Interpersonal Problem Solving (PIPS) Test. This test was designed by Spivack and Sure (1974) to measure children's cognitive ability to solve real life interpersonal problems. As such, the child is presented with a series of situations where one child character wants to get a toy from another child character. The child being tested is asked to generate as many different solutions to the scenarios as possible. In a second portion of the test, the child character has done something which might provoke the mother character to anger and the child must generate viable

ways to avoid her anger. Two scores generated from the PIPS were used in this study: the total PIPS score is the total number of different relevant solutions to the child and mother stories and the force ratio is the number of negative solutions divided by the total number of solutions.

Peabody Picture Vocabulary Test - Revised (PPVT-R). The PPVT-R (Dunn and Dunn, 1981) is a norm-referenced, individually administered, wide-range power test of receptive (hearing) vocabulary. The subject is presented with a series of plates containing four pictures and is asked to point to the picture as labeled by the examiner. Raw scores are converted to standard scores.

Contrived Problem Situation. A contrived problem situation was used to measure a child's ability to solve a realistic interpersonal problem. A "confederate" child was trained to help create a limited resource situation by holding on to several colored markers. The subject child was instructed to color a picture, using the markers already in the possession of the confederate. The dyad was observed and the subject was rated as to whether the first solution generated was aggressive or nonaggressive and on a quality scale. The scale ranged from one (1) through eight (8). A score of 1 indicated that the child used either highly aggressive means to solve the problem, or an extremely passive strategy. A score of 8 signified the child generated many workable solutions.

Results

For the entire sample, PPVT-R standard scores ranged from 40 to 110, with a mean of 85. A significant positive correlations was found between PPVT-R scores and the PIPS Total scores, $r(27) = .512$, $p<.01$, but not between PPVT-R scores and Force Ratio scores, $r(27) = -.158$. the correlation between PPVT-R scores and Quality Ratings in the contrived situation were also small and nonsignificant $r(25) = .212$. Finally, a t-test for significance in group means on PPVT-R scores for subjects who chose a Negative first choice and those who did not was nonsignificant, $t(25) = 1.121$, $p = .90$.

Age of the child was found to be significantly related to PIPS Total scores $r(27) = .503$, $p<.01$ and to Force Ratio scores, $r(27) = -.423$, $p<.01$ in the expected directions. However, age was not significantly related to Quality of responses in the contrived situation $r(2) = .299$. Similarly, a t-

test for significance in group means on age for subjects who chose a Negative first choice and those who did not was significant, $t(25) = -168$, $p=.10$.

Discussion

Results suggest that, among children from homes with distressed and abusive parents, there exists a strong, positive relationship between verbal comprehension and the ability to generate solutions to interpersonal problems. Verbal comprehension was not, however, related to the quality of children's responses or to their actual behavioral choice in a real-life problem situation. Age of the child was more strongly related to the quality of solutions generated, at least in hypothetical problems. That is, as children age from 4 to 8 years old, the quality of their solutions to hypothetical interpersonal problems become more appropriate (i.e., they are better able to report the socially appropriate solution) but age does not appear to be related to their choices when faced with a real problem.

Taken together, the findings indicate that verbal comprehension is related to children's ability to verbally generate solutions to interpersonal problems; however, verbal comprehension does not appear to mediate the quality of their solutions. Furthermore, when challenged with a peer problem involving an instrumental struggle, older and younger children are equally as likely to choose an aggressive solution (i.e. grabbing the desired object).

These findings imply that intervention strategies for behavior problems in elementary school age children should first consider building their verbal comprehension. In this manner, the children will be able to understand situations better and generate better alternatives to aggressive acts in problem situations. This strategy must be followed by active role play of the positive solutions they generate so they will be more likely to incorporate appropriate behaviors, not just words, into their repertoires.

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